BINAPHTHOL DERIVATIVE, CHIRAL ZIRCONIUM CATALYST AND ASYMMETRIC HETERO DIELS-ALDER REACTION METHOD

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Abstract of **JP 2002356454 (A)**

PROBLEM TO BE SOLVED: To provide a new technical means capable of performing an asymmetric hetero Diels-Alder reaction at high yield, high stereo selectivity and excellent asymmetric selectivity. SOLUTION: A binaphthol derivative of a compound expressed by the formula (wherein, R<1> is iodine or a perfluoroalkyl; and R<2> is hydrogen, iodine, bromine or a perfluoroalkyl), or its enantiomer or racemic compound. An aldehyde compound is made to react with a Danishefsky's diene compound in the presence of an aralkyl zirconium catalyst containing the optical active compound as a ligand to synthesize a cyclic compound of an oxygen-containing heterocyclic.